

## REMARKS

The above Amendments and these Remarks are in reply to the Office Action mailed October 6, 2003 (the "Office Action"). Claims 1-15 were pending in the Application prior to the outstanding Office Action. In the Office Action, claims 8 and 11 were rejected under 35 U.S.C. §102(b). Claims 1-7, 9-10, and 12-15 were rejected under 35 U.S.C. §103(a).

### **I. RESPONSE TO REJECTIONS UNDER 35 U.S.C. §102(b)**

On page 2 of the Office Action, the Examiner rejected claims 8 and 11 under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 6,281,516 issued to Bacchi et al. ("*Bacchi*"). Even though Applicants believe that claim 11 is patently distinguishable over *Bacchi*, claim 11 has been cancelled and therefore, a response to the Examiner's rejection concerning claim 11 is not provided below.

*Bacchi* discloses a wafer transport system 10. The base of the system 10 includes "a frame 12 to which two front or port plates 14 are attached." *Bacchi*, 4:16-17. "Each front plate 14 supports one of two substantially identical box load interface systems 16 for front-opening semiconductor carrier boxes 18." *Bacchi*, 4:17-19. Each port plate 14 includes an I/O port (aperture 74) to mate with a port door 76. *Bacchi*, 5:12-13; Fig. 2. Figs. 8-9 and 12 of *Bacchi* illustrate an elevator assembly 28 mounted to each port plate 14 below the box load interface system 16. Fig. 12 shows elevator assembly 12 "in a fully raised position (solid lines) 350 and a fully lowered position (outlined in phantom lines) 352." *Bacchi*, 10:43-45.

The system recited in claim 8, in part, recites:

"a frame having a first vertical strut and a second vertical strut each mounted to a lower support member and an upper support member, said lower support member providing a port door storage compartment and a plurality of mounting surfaces each adapted to receive a front end tool component, said frame defining an I/O port;"

*Bacchi* does not disclose that the frame 12 defines "a perimeter of an I/O port." In contrast, *Bacchi* teaches that each port plate 14 defines an I/O port - aperture 74. The frame 12 in *Bacchi* simply provides a mounting or support structure for each port

plate 14. Further, the frame 12 in *Bacchi* does not include a "lower support member providing a port door storage compartment." In contrast, the elevator assembly 28 in *Bacchi* simply lowers the port door 76 to a fully lowered position 352. Neither the frame 12 nor the port plate 14 includes a "port door storage compartment." Therefore, Applicants respectfully suggest that the EFEM system recited in claim 1 is not anticipated by *Bacchi*.

## **II. RESPONSE TO REJECTIONS UNDER 35 U.S.C. §103(a)**

On pages 3-7 of the Office Action, the Examiner rejected claims 1-7, 9-10 and 12-15 under 35 U.S.C. §103(a) as being unpatentable over several combinations of the following references:

- (1) U.S. Patent No. 6,138,721 issued to Bonora et al ("*Bonora*");
- (2) U.S. Patent No. 6,281,516 issued to Bacchi et al. ("*Bacchi*");
- (3) U.S. Patent No. 6,520,727 issued to Babbs et al. ("*Babbs*"); and
- (4) U.S. Patent No. 6,053,983 issued to Saeki et al. ("*Saeki*").

Even though Applicants believe that claims 3, 5-7, 11-12, and 14 are patently distinguishable over all of the references listed above, either alone or in combination, claims 3, 5-7, 11-12, and 14 have been cancelled and therefore, responses to the Examiner's rejections concerning these claims are not provided below.

*Bonora* discloses an alignment system "for providing quick and easy attachment and adjustment of the load port interface assembly to a BOLTS interface." *Bonora*, Abstract. The BOLTS interface plate 12 "includes a ball joint 14 mounted to a plate 16 on the BOLTS interface plate 12." *Bonora*, 4:63-65. The load port assembly includes a lateral adjustment plate 24 on the bottom surface. "[A] spherical detent is formed in the bottom portion of the lateral adjustment plate 24 to define a socket 28." *Bonora*, 5:8-10. The ball and socket configuration allows a single person to adjust the roll angle and the azimuth angle of the load port assembly 10 with respect to the BOLTS plate 12.

*Babbs* discloses a modular sorter 100. The two I/O port sorter 100 includes a frame 142 with a removable end panel 144. *Babbs*; Fig. 5. The end panel 144 may be removed and "a connector frame 156 is affixed to the frame 142 in the same position and in the same manner as the removed panel 144." *Babbs*, 9:67-10:2. A new modular

section, such as a one I/O port sorter, is then affixed to the connector frame 156 to expand the two I/O port sorter 100 into a three I/O port system.

*Saeki* discloses “a wafer detector 45 for detecting the wafers W remaining in the carrier body 10.” *Saeki*, 5:33-35. The wafer detector 45 is integrated into the port door (lid holding member 41). The wafer detector 45 includes “a plurality of light emitting devices 47 and a plurality of photoelectric devices 48.” *Saeki*, 5:36-37.

**A. *Bonora* in view of *Bacchi***

On page 3 of the Office Action, the Examiner rejected claims 1-3, 6-7, and 13-14 under 35 U.S.C.103(a) as being unpatentable over *Bonora* in view of *Bacchi*.

**1. Independent claim 1 Is Patently Distinguishable Over *Bonora* in view of *Bacchi***

Claim 1, in part, recites:

“a frame having a first vertical strut and a second vertical strut each mounted to a lower support member providing a port door/carrier door storage compartment and plurality of mounting surfaces and an upper support member, said frame defining a perimeter of an I/O port;”

*Bonora* does not provide a “frame defining a perimeter of an I/O port.” The Examiner draws Applicant’s attention to the BOLTS interface plate 12 in *Bonora*. According to *Bonora*, “[t]he BOLTS interface attaches to, or is formed as part of, the front end of a process tool, and provides standard mounting points for a load port to attach to the process tool.” *Bonora*, 2:3-6. The BOLTS interface plate 12 is simply a structure for mounting for the load port assembly 10 to the front end of the processing tool. The load port interface plate 26 of the load port assembly 10 in *Bonora* includes an I/O port - process tool port 15. See *Bonora*, Fig. 1. However, the load port interface plate 26 does not provide “a port door/carrier door storage compartment.” *Bonora* also does not suggest modifying the load port interface plate 26 to include such a compartment.

*Bacchi* does not provide the elements missing in *Bonora*. The frame 12 disclosed in *Bacchi* does not define “a perimeter of an I/O port” or provide “a port door/carrier door storage compartment.” The frame 12 in *Bacchi* only provides a

mounting structure for each port plate 14. The port plate 14 in *Bacchi* defines an I/O port – aperture 74. However, the port plate 14 does not provide “a port door/carrier door storage compartment.” *Bacchi* does not suggest modifying the port plate 14 to include such a storage compartment. As shown in Fig. 12 of *Bacchi*, the port door 76 is simply lowered to a fully retracted position 352 and positioned behind the port plate 14. Therefore, Applicants respectfully suggest that claim 1 is not obvious over *Bonora* in view of *Bacchi*.

**2. Dependent claim 2 Is Patently Distinguishable over *Bonora* in view of *Bacchi***

Dependent claim 2 depends directly or indirectly from independent claim 1. This dependent claim includes all of the limitations of the independent claim from which it depend. Applicants respectfully assert that dependent claim 2 is allowable for at least the reasons set forth above concerning independent claim 1.

**3. Independent claim 13 Patently Distinguishes over *Bonora* in view of *Bacchi***

Claim 13, in part, recites:

“a frame defining a perimeter of an I/O port, including:

an upper support member;

a lower support member providing an interior door storage compartment, an interior mounting surface, and an exterior mounting surface;

a first vertical strut and a second vertical strut, each said vertical strut affixed to said upper support member and said lower support member;”

For at least the same reasons previously discussed above concerning claim 1, neither *Bonora* nor *Bacchi*, either alone or in combination, disclose or suggest a “frame” that defines “an outer perimeter of an I/O port” or provides “an interior door storage compartment.”

**B. *Bonora and Bacchi* in view of *Babbs***

On page 4 of the Office Action, the Examiner rejected claim 5 under 35 U.S.C. Section 103(a) as being unpatentable over *Bonora* and *Bacchi* as applied to claim 1 above, and further in view of *Babbs*. Claim 5 has been canceled and therefore, a response to the Examiner's rejection is not provided.

**C. *Bonora and Bacchi* in view of *Saeki***

On page 5 of the Office Action, the Examiner rejected Claims 4 and 15 under 35 U.S.C. 103(a) as being unpatentable over *Bonora* and *Bacchi* as applied to claim 1 above, and further in view of *Saeki*.

**1. Claim 4 Patently Distinguishes over *Bonora* and *Bacchi* in view of *Saeki***

Dependent claim 4 depends directly from independent claim 1. Claim 1, in part, recites:

"a frame having a first vertical strut and a second vertical strut each mounted to a lower support member providing a port door/carrier door storage compartment and plurality of mounting surfaces and an upper support member, said frame defining a perimeter of an I/O port;"

As previously discussed above concerning claim 1, neither *Bonora* nor *Bacchi*, either alone or in combination, disclose or suggest a "frame" that provides "a port door/carrier door storage compartment" or defines "a perimeter of an I/O port." Moreover, *Saeki* does not provide the elements missing from *Bonora* and *Bacchi*. Figs. 2-3, and 6 of *Saeki* illustrate that the port door 41 is simply retracted into the wafer transfer chamber 38. The front panel 31 in *Saeki* does not provide "a port door/carrier door storage compartment." Therefore, Applicants respectfully assert that claim 4 is not obvious over *Bonora* and *Bacchi*, in further view of *Saeki*.

**2. Claim 15 Patently Distinguishes over *Bonora* and *Bacchi* in view of *Saeki***

Dependent claim 15 depends directly from independent claim 13. Claim 13, in part, recites:

"a frame defining a perimeter of an I/O port, including:

an upper support member;

a lower support member providing an interior door storage compartment, an interior mounting surface, and an exterior mounting surface;

a first vertical strut and a second vertical strut, each said vertical strut affixed to said upper support member and said lower support member;"

As previously discussed above concerning claim 13, neither *Bonora* nor *Bacchi*, either alone or in combination, disclose or suggest a "frame" that provides "an interior door storage compartment" or defines "a perimeter of an I/O port." Moreover, *Saeki* does not provide the elements missing from *Bonora* and *Bacchi*. Figs. 2-3, and 6 of *Saeki* illustrate that the port door 41 is simply retracted into the wafer transfer chamber 38. The front panel 31 in *Saeki* does not provide "an interior door storage compartment." Therefore, Applicants respectfully assert that claim 4 is not obvious over *Bonora* and *Bacchi*, in further view of *Saeki*.

**D. *Bacchi* in view of *Saeki***

On page 5 of the Office Action, the Examiner rejected claim 12 under 35 U.S.C. 103(a) as being unpatentable over *Bacchi* in view of *Saeki*. Claim 12 has been canceled and therefore, a response to the Examiner's rejection is not provided.

**E. *Bacchi* in view of *Bonora***

On page 7 of the Office Action, the Examiner rejected claim 9 under 35 U.S.C. 103(a) as being unpatentable over *Bacchi* as applied to claim 8 above, and further in view of *Bonora*. Dependent claim 9 depends directly from independent claim 8. The system recited in claim 8, in part, recites:

"a frame having a first vertical strut and a second vertical strut each mounted to a lower support member and an upper support member, said lower support member providing a port door storage compartment and a plurality of mounting surfaces each adapted to receive a front end tool component, said frame defining an I/O port;"

As previously discussed above concerning claims 1 and 8, neither *Bacchi* nor *Bonora* disclose or suggest a “frame” that provides “a port door storage compartment” or defines “a perimeter of an I/O port.” Therefore, Applicants respectfully assert that claim 9 is not obvious over *Bacchi* in view of *Bonora*.

**F. *Bacchi* in view of *Babbs***

On page 7 of the Office Action, the Examiner rejected Claim 10 under 35 U.S.C. 103(a) as being unpatentable over *Bacchi* as applied to claim 8 above, and further in view of *Babbs*. Dependent claim 10 depends directly from independent claim 8. The system recited in claim 8, in part, recites:

“a frame having a first vertical strut and a second vertical strut each mounted to a lower support member and an upper support member, said lower support member providing a port door storage compartment and a plurality of mounting surfaces each adapted to receive a front end tool component, said frame defining an I/O port;”

As previously discussed above concerning claim 8, *Bacchi* does not disclose or suggest a “frame” that provides “a port door storage compartment” or defines “a perimeter of an I/O port.” Moreover, *Babbs* does not provide the elements missing in *Bacchi*. *Babbs* does not suggest that frame 142 includes “a port door storage compartment.” Specifically, Fig. 10 of *Babbs* illustrates that the port door is simply lowered into the sorter 100. There is no “storage compartment” to store the port door within. Therefore, Applicants respectfully assert that claim 9 is not obvious over *Bacchi* in view of *Bonora*.

### Additional Remarks

The references cited by the Examiner but not relied upon have been reviewed, but are not believed to render the claims unpatentable, either singly or in combination.

In light of the above, it is respectfully submitted that all of the claims now pending in the subject patent application are allowable, and a Notice of Allowance is requested.

Enclosed is a PETITION FOR EXTENSION OF TIME UNDER 37 C.F.R. §1.136 for extending the time to respond up to and including today, April 6, 2004.

The Commissioner is authorized to charge any underpayment or credit any overpayment to Deposit Account No. 50-0639 for any matter in connection with this response, including any fee for extension of time, which may be required.

Respectfully submitted,

Date: April 6, 2004

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